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CENTRAL INTELLIGENCE AGENCY
INFORMATION REPORT

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SUBJECT	Nuclear Institute of Professor Hertz near Sukhumi	DATE DISTR.	29 November 1954
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THE SOURCE EVALUATIONS IN THIS REPORT ARE DEFINITIVE.
 THE APPRAISAL OF CONTENT IS TENTATIVE.
 (FOR KEY SEE REVERSE)

1. The institute of Professor Gustav Hertz near Sukhumi was controlled by the Ninth Directorate in Moscow. During the first six months of 1949, the institute personnel consisted of 15 to 20 German scientists, five to ten Soviet scientists, and 30 to 40 Soviet assistants. In July 1946, about 100 PWs were attached to the institute as helpers but were transferred to the Karaganda Camp on 15 July 1949 after refusing to sign work contracts with the institute.
2. In 1945 the institute area was enlarged and the construction of new workshops and billets, most of them Finnish log houses, was initiated. The workshops were completed in 1947 - (see layout of institute on page 5).
3. Activities at the institute included Professor Hertz' work on isotope separation, Dr. Schuetz's development, improvement, and production of mass spectrographs, and Dr. Bumm's research on metal alloys. No details on these activities were available.
4. Four mass spectrographs were built. The completed sets were trucked to unknown destinations. Without their base, the box-shaped spectrographs were about 125 cm high, 80 cm wide, and 60 to 70 cm deep (see sketches on page 6). The framework consisted of angle iron and sheet metal painted black. Each box was provided with 10 to 12 drawer sections which were 60 to 70 cm long, 40 cm wide, and 25 cm high, and which contained the component units of the entire set. The front of these drawers was covered with sheet aluminum. The drawers were fitted with a second bottom of sheet aluminum, six or seven cm above the actual bottom of the drawer. Condensers, resistors, etc., were installed in some of these bottom compartments.
5. In mid-1947, PWs started to construct the first mass spectrograph, according to Dr. Schuetz's instructions and blueprints prepared by the designing office. The construction proceeded at an uneven rate. The last spectrograph left the institute in mid-1949. Since none of the PW mechanics was familiar with the equipment and the structural

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setup of a mass spectrograph, no detailed information was obtainable. The switching systems were fixed by a Soviet in Dr. Schuetz's laboratory, to which PWs had no access.

6.

7. By order of the Ninth Directorate in Moscow, the institute produced 300 to 500 ceramic tubes every three months. The tubes were about 500 mm long and 12 to 15 mm in diameter and their walls were one-tenth mm thick. The tubes were burned and sintered in electric kilns.

8.

9. The institute power plant produced all of the current used by the institute. The machines were fed with 100-cycle 220/380-volt current; in the new machine shop, power was stepped down to eight volts for experimental and production reasons. After spring 1949, Dipl. Ing. Staudenmaier occasionally mentioned that a power transmission line would be extended from the Sukhumi area since the institute's power plant could no longer produce enough current to fulfill its own requirements.

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Legend to Layout Sketch of Sukhumi Institute

1. Tennis court.
2. Administrative building.
3. Apartment house or Soviet guest house.
4. Soviet guest house.
5. Soviet apartment house.
6. Professor Hertz's villa.
7. Storage shed, 15 by 40 meters, for electric and plumbing equipment and chemicals, most of which came from Germany.
8. Storage shed, 15 by 30 meters, with dismantled switching plates, old lathes, and scrap.
9. Old workshop, 6 by 10 by 15 meters, a single-story building with saddle roof. In 1949 the building was vacant except for an iron-cutting disk saw which was still in use.
10. Two new hydrogen containers, four by four meters, of sheet metal. The erection of these tanks was started in mid-1949 and the foundations were completed in July 1949.
11. Twelve Finnish log houses, 8 by 12 meters, with apartments, dispensary, etc.
12. Three Finnish log houses, 8 by 12 meters.
13. House of a Soviet captain, his wife, and nine or ten children.
14. New apartment house, 8 by 12 meters.
15. Depot, 10 by 20 meters, with shop for food, clothing, and utensils.
16. New apartment house, 8 by 12 meters.
17. New apartment house, 8 by 12 meters.
18. Apartment house, 15 by 30 meters.
19. Shop.
20. Three new apartment houses, 8 by 12 meters.
21. Three new apartment houses, 8 by 12 meters.
22. Apartment house, 15 by 30 meters.
23. Inn, 25 by 35 meters.
24. Apartment house, 15 by 40 meters.
25. Seven or eight new apartment houses, 8 by 12 meters.
26. Eastern gate.
27. Komendatura.

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28. Power plant, 20 by 40 meters, a single-story hangar-type brick building with saddle roof, equipped with four four-cylinder diesel engines with a piston diameter of about 50 cm.
- 28a. Fuel dump for power plant.
29. Compressor station, a single-story brick building with saddle roof constructed between summer 1947 and summer 1948. The building housed oxygen compressors.
30. Chemistry building, 20 by 40 meters, a single-story brick building with basement and saddle roof completed in late 1947. The building housed four large electric kilns with a power consumption of 800 to 1000 amperes at 40 to 60 volts used for the sintering of ceramic tubes.
31. New machine shop, 15 by 40 meters, a single-story brick building with saddle roof put into operation in 1947. The building housed the machine shop with about 15 generators of various sizes with switchboards; small repair and assembly shops; a rolling mill with one roll, 30 to 40 cm wide, for experiments with various metals, and one roll, 40 to 50 cm wide; a battery maintenance and charging station filled with lead batteries, 25 by 25 cm; and one thermionic emitter which was only stored in the building.
32. New single-story workshop, 40 by 15 meters, with saddle roof. The building housed an office, tool supply room, trolley through the entire building, and fitting shop with four lathes, one Soviet vertical lathe, two shaping machines, one automatic screw-cutting machine, and one large and one small boring machine. All the machinery was fitted with single drive. The following were also available: a forge with funnel; a press; an electric welding machine; a plumbing installation with shears, a flanging and seam rolling machine with several leveling plates, two German spot-welding machines; a carpenter's shop with band saw, a planing machine, and two carpenter's benches; and a compressor station with an air compressor with six atm capacity and a compressor for liquid air.
33. Laboratory building, 20 by 40 meters, a single-story brick structure with saddle roof. The building housed the laboratory of Dr. Muhlenpfordt, an electric workshop with a milling machine, emery wheel, and small boring machine, a glass-blowing shop with workbench and four flames for producing glass for the laboratories and "glass pumps" for Professor Hertz. The basement housed a vacuum pump.
- 33a. Single-story brick building, four by eight meters, for archives.
34. Wooden shed which was torn down in 1949. A garage was to be erected in its place.
35. Fuel dump with above-surface fuel tanks.
36. Institute building, 20 by 50 meters, a single-story brick structure with saddle roof. Each wing was 15 meters long. The building housed the laboratories of Professor Hertz, Dr. Hartmann, Dr. Schuetz, Dr. Zuehlke, and Dr. Barwich; a precision machine shop; storage rooms; a water distillery; a library; the office of the electromechanical department of Dipl. Ing. Staudenmaier; and a secret office in which the results of research work were filed.
37. Lighthouse.

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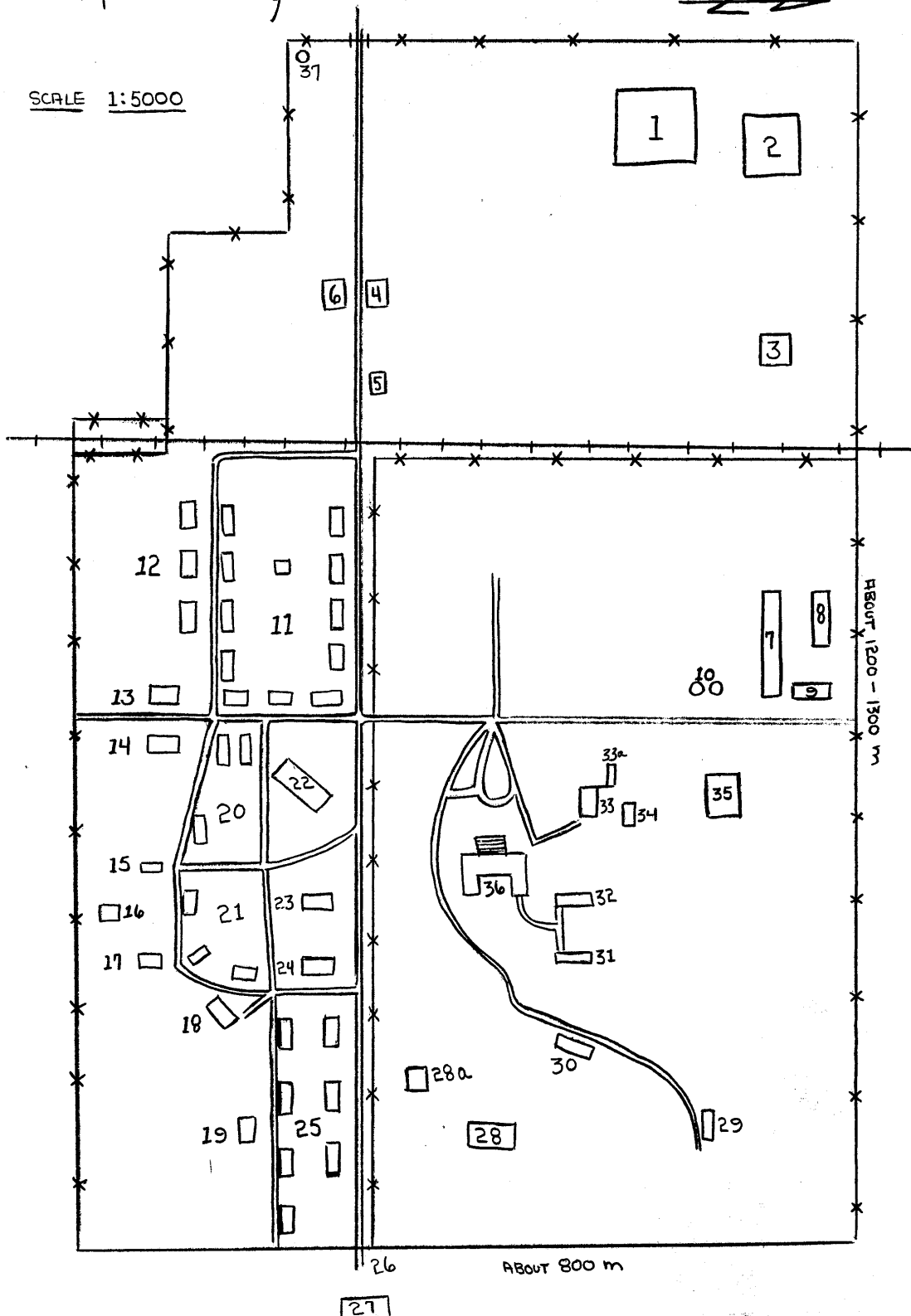
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Layout Sketch of Sukhumi Institute

SCALE 1:5000



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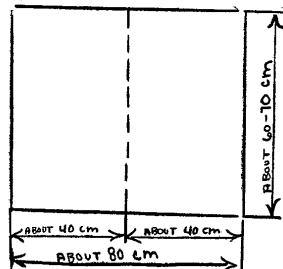
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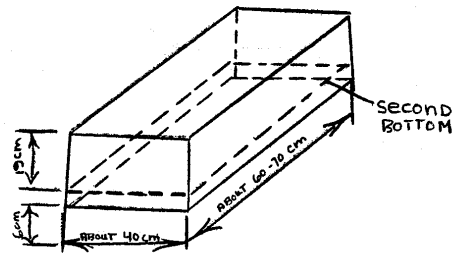
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Rough Sketches of Crate Containing Mass Spectrograph

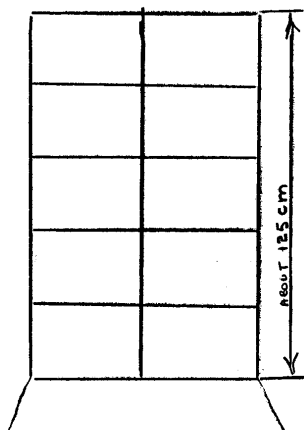
Top View



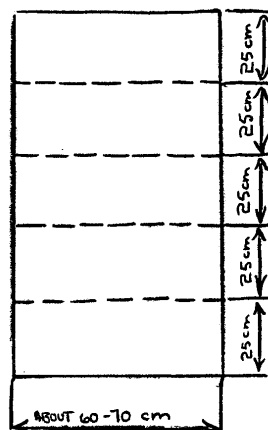
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Front View



Side View



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